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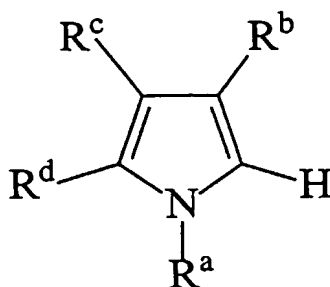
(43) International Publication Date  
15 January 2004 (15.01.2004)

PCT

(10) International Publication Number  
WO 2004/005360 A2

- (51) International Patent Classification<sup>7</sup>: C08F 10/00
- (21) International Application Number: PCT/EP2003/007485
- (22) International Filing Date: 9 July 2003 (09.07.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/394,614 9 July 2002 (09.07.2002) US
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- (81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,  
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declaration under Rule 4.17:  
— of inventorship (Rule 4.17(iv)) for US only
- Published:  
— without international search report and to be republished  
upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: CATALYST SYSTEM FOR THE POLYMERIZATION OF OLEFINS



(I)

(57) Abstract: An organometallic compound obtainable by contacting: a compound having the following formula (I), wherein: R<sup>a</sup> is a hydrocarbon radical; R<sup>b</sup>, R<sup>c</sup> and R<sup>d</sup> are hydrogen atoms, halogen atoms, or hydrocarbon radicals; with a Lewis acid of formula (II) MtR<sup>1</sup><sub>3</sub> (II) wherein Mt is a metal belonging to Group 13 of the Periodic Table of the Elements; R<sup>1</sup> are selected from the group consisting of halogen atoms, halogenated C<sub>6</sub>C<sub>20</sub> aryl and halogenated C<sub>7</sub>-C<sub>20</sub> alkylaryl groups.

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/07485

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C08F10/00 C07F5/02 C08F4/645

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C08F C07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/62764 A (BASELL TECHNOLOGY COMPANY B V) 30 August 2001 (2001-08-30) cited in the application claims 1-12; examples 1-12; table 1	1-20
X	WRACKMEYER, BERND ET AL: "Nuclear magnetic resonance studies on boron compounds, X. Boron-11, nitrogen-14 and proton NMR studies on boryl-substituted thiophene, furan, and N-methylpyrrole and related systems: interaction of sp <sup>2</sup> -boron atoms with pi.-systems" CHEMISCHE BERICHTE, vol. 109, no. 3, 1976, pages 1075-1088, XP000916523 page 1077 - page 1082; tables 1,2 ----- -/-	1,3,6,7

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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- \*G\* document member of the same patent family

Date of the actual completion of the international search

9 July 2004

Date of mailing of the international search report

17.08.2004

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/07485

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DATABASE CAPLUS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; KAMAISHI, TADAMI ET AL: "Polymerization of.alpha.-olefin" XP002264600 retrieved from STN Database accession no. 71:92059 abstract & JP 44 013148 B (TOYO RAYON CO., LTD.) 12 June 1969 (1969-06-12)	1-20
A	DATABASE CAPLUS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; KAMAISHI, TADAMI ET AL: "Polypropylene" XP002264601 retrieved from STN Database accession no. 70:88432 abstract & JP 43 029756 B (TOYO RAYON CO., LTD.) 20 December 1968 (1968-12-20)	1-20
A	DATABASE CAPLUS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; KAMAISHI, TADAMI ET AL: "Crystalline polyolefins" XP002264602 retrieved from STN Database accession no. 71:22482 abstract & JP 44 006828 B (TOYO RAYON CO., LTD.) 25 March 1969 (1969-03-25)	1-20

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 03/07485

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

As a result of the prior review under R. 40.2(e) PCT,  
no additional fees are to be refunded.

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☒ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-20 (in part)

The subject matter of claims 1-20 (in part) insofar as any of Ra, Rb, Rc and Rd in the heterocyclic compound according to claim 1, formula I does not form part of a C4-C7 ring.

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2. claims: claims 1-20 (in part)

The subject matter of claims 1-20 (in part) insofar as any of Ra, Rb, Rc and Rd in the heterocyclic compound according to claim 1 of formula I forms part of a C4-C7 ring.

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/07485

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		AU 3737301 A	03-09-2001
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		CA 2370799 A1	30-08-2001
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JP 44006828	B	NONE	